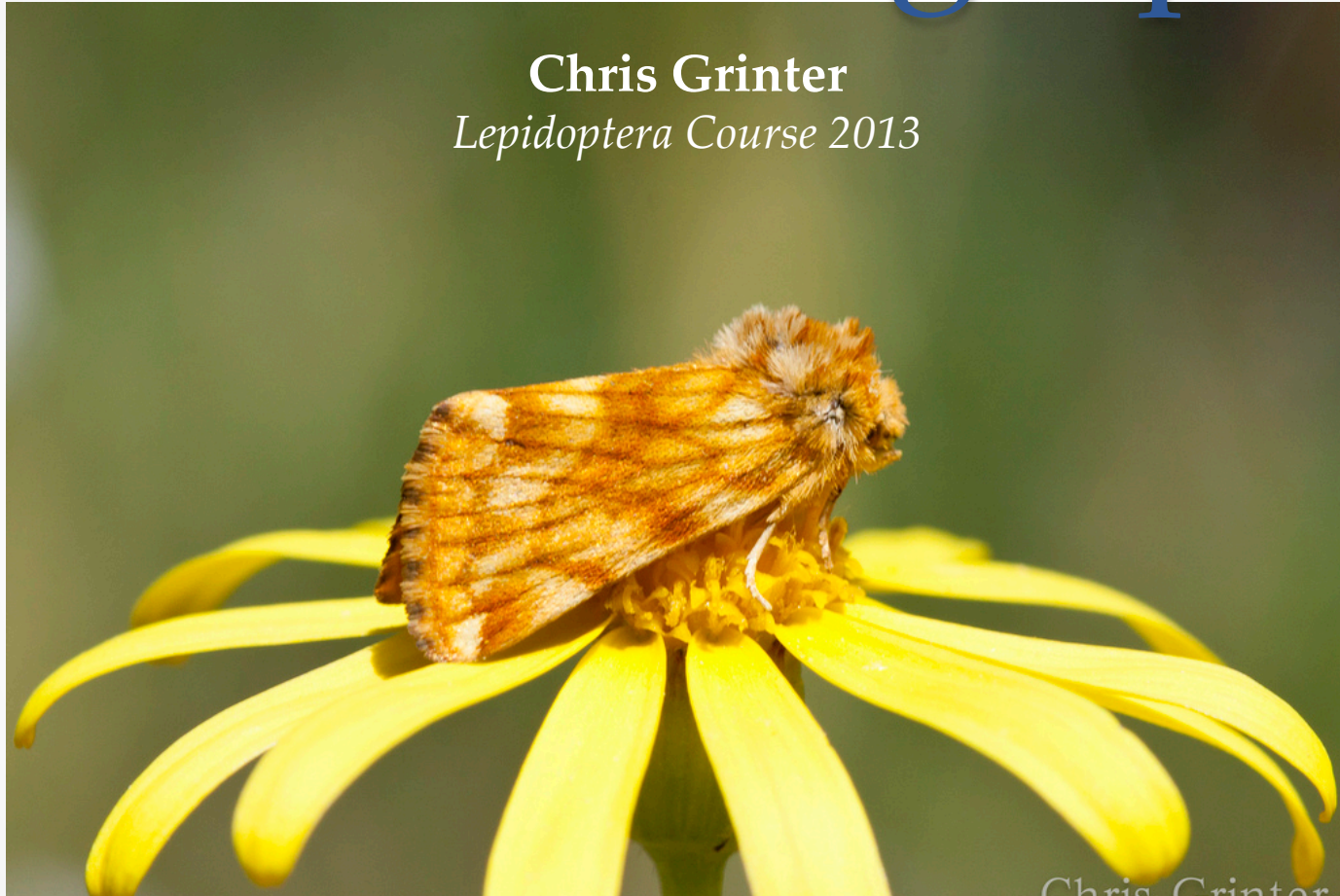


# Insect Photography

Chris Grinter

*Lepidoptera Course 2013*



Chris Grinter



DENVER MUSEUM OF

NATURE & SCIENCE

# Overview

- Dead things
  - Gear, specimen prep, focus stacking
- Live things
  - Gear, composition, etc.
- Post Processing



# Pinned Specimens

- Often require focus-stacking, or bringing the specimen far enough off of the backdrop to give a balanced out-of-focus background.



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1/200 f/10 ISO100 MPE 65mm, 75 shots stacked in Helicon



# Focus Stacking

- Combining multiple images with sharp focus and narrow aperture into one image in perfect focus.
- Lots of software options for processing these Z-stacks
  - Helicon Focus - \$115/\$200/\$240
  - Zerene Stacker \$39/\$89/\$189/\$289 (personal favorite)
  - **Combine ZP – FREE!**
  - Photoshop \$642
  - Syncroscopy & Auto-Montage \$\$\$\$
- Hardware can be a bit tricky...

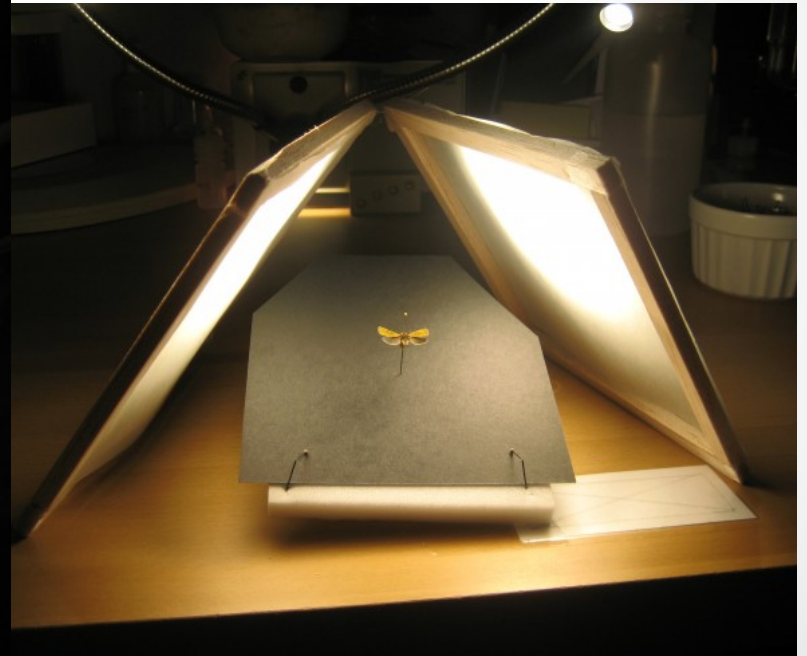
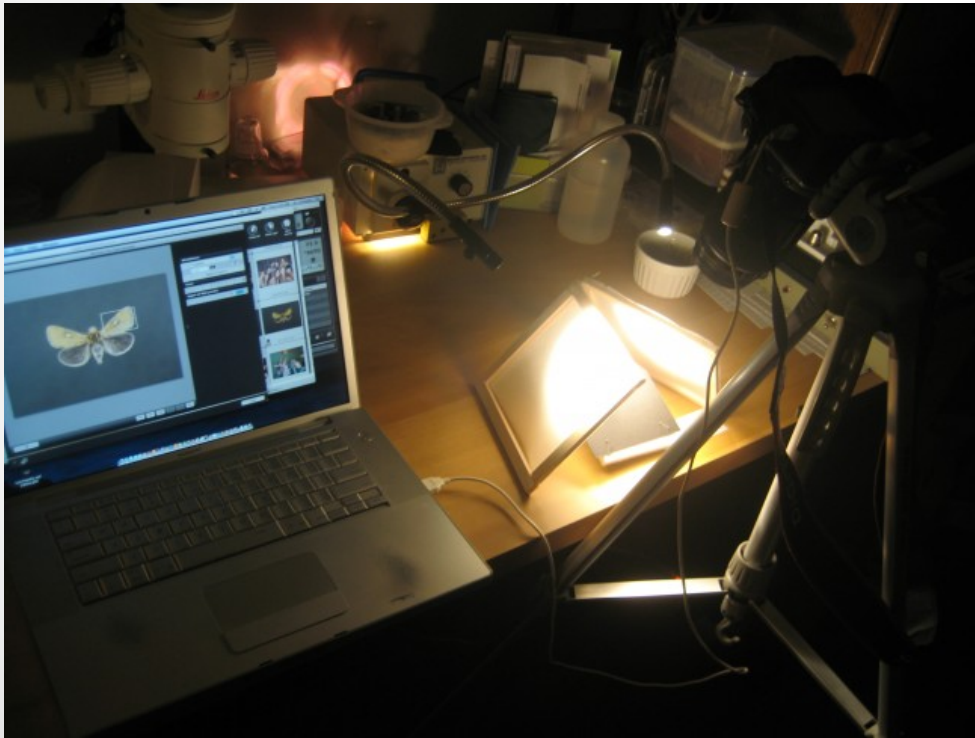
# Hardware

- Depending on your requirements, you may need more or less gear.
- Leps are fairly 2 dimensional and you can easily get away without complicated stacks
  - But for genitalia – it's a really nice option



# Hardware

- Basic photos can be taken with a DSLR on a tripod with steady lighting, but flash is preferable.
  - Canon 40D with 100mm macro lens (live view through computer comes free with all Canon DSLRs)



# Hardware

- Setups can get complicated. I have the “Passport II” on my desk from Visionary Digital (~\$20,000)





# Hardware

- Or very complicated and be in the ~\$50-90,000 range.





# Hardware

- The basics include a camera mounted on a rail system that physically moves the camera between each shot. (\$600)



# Setting up the Shot

- Adding height to the specimen or placing over glass is the best way to cheat the aperture. This way you can shoot at f/11-16 and still have a blurred background
  - Wax or clay are perfect!



# Setting up the Shot

- Diffuse light is critical and Styrofoam is one of the best things to use.





# Setting up the Shot

- Diffuse light is critical and Styrofoam is one of the best things to use.



1/200 f/11, ISO 100, MP-E65mm at 1x

# Live Animals in the Studio

- Soft-box for white backgrounds



# Live Animals in the Studio

- Over glass/black background for dramatic effects



© Chris Ginter 2013



# Live Animals in the Studio

- Over glass/black background for dramatic effects



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# Live Animals in the Studio

- Rock or other natural material for a fake outdoors look.



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# Focus Stacking Live Animals

- If you are only taking a few shots you can adjust the focus manually, or physically move the camera carefully in or out. Handheld stacks are possible (if your subject is perfectly motionless)

©PIOTR NASKRECKI 2012



A bark louse (Psocoptera) from Mozambique [Canon 7D, Canon MP-E 65mm, 3 speedlights Canon

- 580EXII; 12 images, taken at f10; combined in Helicon Focus



# Live Animals in the Field

- Getting down to the level of the insect is important



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# Gear for Live Animals

- DSLR + Macro lens of some style. 100mm is perfect for butterflies/moths and is sharp enough for beautiful images. 200mm+ or non-prime don't usually generate the same quality macro shots
- MP-E65mm 1-5x is the ideal lens for any serious insect photographer. Beautifully sharp and capable of 5x magnification without bellows.
- Flash and flash-diffusion are critical for the MP-E65
  - Large array of options for diffusion, some combination of foam/Styrofoam/packing materials provide the best diffuse light.
  - Tons of blogs/photos/posts about making the best diffusers.

# Gear for Live Animals

- Canon MP-E 65mm 1-5x



Alex Wild



# Gear for Live Animals

- Diffusion of the Canon MT-24EX Twin Flash



# MP-E 65mm





MP-E 65mm





# Live Animals in the Field

- Composition is critical



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# Post-Processing

- Workflow
  - Photos auto-import into Lightroom 4, where I adjust exposure, add a few clicks of “Clarity”, bring up or down the shadows and sometimes adjust the highlights.
  - If you’re stacking you can synchronize photos in Lightroom and export them all as 16bit TIFF files to be stacked (resulting in a huge photo ~100MB)
- Image Manipulation
  - Photoshop versions CS5 & CS6 have the spot-healing brush tool, which works like magic!
  - Clone-stamp is great for cloning scales over holes/brushed areas
  - Erasing the background makes for a floating image





# Post-Processing

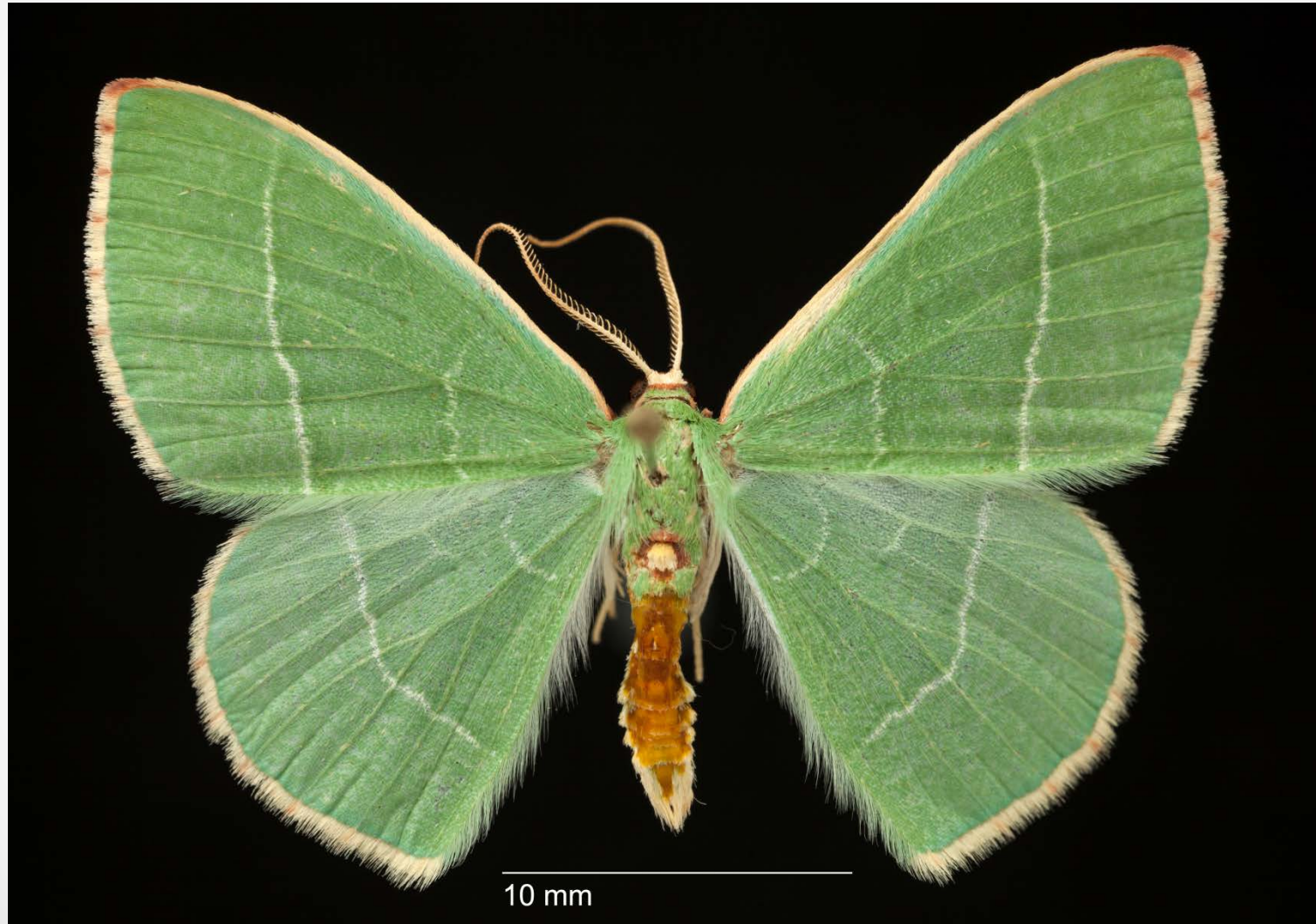
- Pin holes...





# Post-Processing

- Vanish!



# Post-Processing

- Or even more severe repairs



*Digrammia gilletteata*



# Post-Processing

- Or even more severe repairs

